AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims*:

Claim 1 (currently amended): A device for inducing local bone or cartilage formation, comprising:

a bone morphogenetic protein selected from the group consisting of OP1, OP2, OP3, BMP2, BMP3, BMP4, BMP5, BMP6, BMP9, BMP10, BMP11, BMP12, BMP15, BMP16, DPP, Vg1, 60A protein, GDF-1, GDF3, GDF5, GDF6, GDF7, GDF8, GDF9, GDF10 and GDF11, capable of inducing repair of endochondral bone, or cartilage, chondral, or osteochondral defects;

a non-synthetic, non-polymeric matrix selected from the group consisting of collagen, apatites, hydroxyapatites, tricalcium phosphate, and admixtures thereof; and

* The amendments presented herein are based on the claims pending following entry of the amendments presented in applicants' June 4, 2004 Reply.

a binding agent selected from the group consisting of cellulose and salts thereof;

wherein said binding agent has a degree of substitution of 0.65-0.90 and a viscosity of about 10-200 cP at a 4% (w/v) concentration of said binding agent.

Claim 2 (canceled).

Claim 3 (currently amended): The device of claim 1, wherein said bone morphogenetic protein is selected from the group consisting of OP1, OP2, BMP2, BMP4, BMP5, and BMP6~~, and variants thereof having conservative amino acid substitutions and substantially similar osteogenic activity~~.

Claim 4 (currently amended): ~~The~~ A device ~~of claim 1, wherein said~~ for inducing local bone and cartilage formation comprising a bone morphogenetic protein ~~comprises~~ comprising an amino acid sequence having at least 70% homology with the C-terminal 102-106 amino acids, including the conserved seven cysteine domain, of human OP1~~.~~;

a non-synthetic, non-polymeric matrix selected from the group consisting of collagen, apatites, hydroxyapatites, tricalcium phosphate, and admixtures thereof; and

a binding agent selected from the group consisting of cellulose and salts thereof;

wherein said bone morphogenetic protein is capable of inducing repair of endochondral bone when implanted together with a matrix in a mammal.

Claim 5 (previously presented): The device of claim 1 wherein said bone morphogenetic protein is OP-1.

Claim 6 (previously presented): The device of claim 1 wherein said device comprises at least two different bone morphogenetic proteins.

Claim 7 (canceled).

Claim 8 (original): The device of claim 1 wherein said matrix is collagen.

Claim 9 (withdrawn): The device of claim 1 wherein said device comprises at least two different matrix materials.

Claim 10 (canceled).

Claim 11 (original): The device of claim 1 wherein said binding agent is selected from the group consisting of alkylcelluloses.

Claim 12 (original): The device of claim 1 wherein said binding agent is selected from the group consisting of methylcellulose, methylhydroxyethylcellulose, hydroxyethylcellulose, hydroxypropylmethylcellulose, carboxymethylcellulose, sodium carboxymethylcellulose, hydroxyalkylcelluloses, and admixtures thereof.

Claim 13 (original): The device of claim 1 wherein said binding agent is carboxymethylcellulose or the sodium salt thereof.

Claim 14 (withdrawn): The device of claim 1 wherein said device comprises at least two different binding agents.

Claim 15 (original): The device of claim 1 further comprising a wetting agent.

Claim 16 (original): The device of claim 15 wherein said wetting agent is saline.

Claim 17 (previously presented): A device for inducing local bone or cartilage formation, comprising at least approximately 1.25 mg of OP-1 and at least approximately 180 mg of carboxymethylcellulose per 1000 mg of collagen matrix, wherein said carboxymethylcellulose has a degree of substitution of 0.65-0.90 and a viscosity of about 10-200 cP at a 4% (w/v concentration of said carboxymethylcellulose.

Claim 18 (previously presented): The device of claim 17 comprising at least approximately 2.5 mg of OP-1 per 1000 mg of collagen matrix.

Claim 19 (previously presented): The device of claim 17 or 18 comprising at least approximately 200 mg of carboxymethylcellulose per 1000 mg of collagen matrix.

Claim 20 (previously presented): The device of claim 1 wherein the binding agent to matrix ratio is one part by weight binding agent to 1-10 parts by weight matrix.

Claim 21 (previously presented): The device of claim 20 wherein the binding agent to matrix ratio is one part by weight binding agent to 5 parts by weight matrix.

Claim 22 (previously presented): The device of claim 20 wherein the binding agent to matrix ratio is one part by weight binding agent to 1-5 parts by weight matrix.

Claim 23 (previously presented): The device of claim 1 wherein the binding agent to matrix ratio is 1-10 parts by weight binding agent to 1 part by weight matrix.

Claim 24 (previously presented): The device of claim 23 wherein the binding agent to matrix ratio is fewer than 10 parts by weight binding agent to one part by weight matrix.

Claim 25 (original): The device of claim 17, 18 or 19 further comprising saline.

Claims 26-30 (canceled).

Claim 31 (previously presented): A device for inducing local bone or cartilage formation comprising:

OP-1;

collagen matrix; and

carboxymethylcellulose having a degree of substitution of 0.65-0.90 and a viscosity of about 10-200 cP at a 4% (w/v) concentration of said carboxymethylcellulose.

Claim 32 (previously presented): A kit for inducing local bone or cartilage formation, the kit comprising:

(a) a first receptacle housing a bone morphogenetic protein and a non-synthetic, non-polymeric matrix selected from the group consisting of collagen, apatites, hydroxyapatites, tricalcium phosphates and admixtures thereof, and

(b) a second receptacle housing a binding agent selected from the group consisting of cellulose, and salts thereof,

wherein said binding agent has a degree of substitution of 0.65-0.90 and a viscosity of about 10-200 cP at a 4% (w/v) concentration of said binding agent.

Claim 33 (previously presented): The kit of claim 32 further comprising a receptacle adapted to house a wetting agent.

Claim 34 (canceled).

Claim 35 (previously presented): A kit for inducing local bone or cartilage formation, the kit comprising:

a first receptacle housing a bone morphogenetic protein, a non-synthetic, non-polymeric matrix selected from the group consisting of collagen, apatites, hydroxyapatites, tricalcium phosphates, and admixtures thereof, and a binding agent selected from the group consisting of cellulose, and salts thereof,

wherein said binding agent has a degree of substitution of 0.65-0.90 and a viscosity of about 10-200 cP at a 4% (w/v) concentration of said binding agent.

Claim 36 (previously presented): The kit of claim 35, further comprising a second receptacle adapted to house a wetting agent.

Claim 37 (previously presented): The device of claim 5, wherein the amount of the OP-1 ranges from approximately 0.125 mg to 10.0 mg.

Claim 38 (previously presented): The device of claim 37, wherein the amount of the OP-1 is approximately 3.5 mg.